

-m- FYI+File



BARITE HILL PROJECT

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October 2, 1992

Mr. Van Keisler
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Dear Mr. Keisler;

Enclosed please find two copies of the Groundwater Monitoring results for the third quarter of 1992. The lab analyses and a collated version of the data has been included. This data is still part of the baseline, and so no statistical analyses have been included.

If you have any questions or comments, please feel free to call me at (803) 443-2222.

Sincerely;

Jean V. Whisnant

enc

cc: Rick Dye, NGI

RECEIVED
OCT 05 1992
HYDROGEOLOGY

DHEC MONITOR WELLS
QUARTERLY REPORTS

R3 UPGRADIENT

LOCATION 20242.910, 6759.730

COLLAR ELEVATION - 486.100

DEPTH OF WELL - 70ft

	DATE	8/28/91	9/12/91	2/27/92	5/14/92	8/25/92
DEPTH TO WATER		46.27	46.18	50.82	52.21	52.65
WATER ELEVATION		439.89	439.92	435.28	433.89	433.45
Silver		<0.01	<0.010	<0.010	<0.010	<0.01
Aluminum		51	71	16.6	1.9	2.6
Barium		0.59	0.11	0.29	0.11	0.10
Calcium		4		0.6	<1	<1
Cadmium		0.006	<0.005	<0.005	<0.005	<0.005
Chromium		<0.01	<0.01	<0.01	<0.01	<0.01
Copper		1	0.06	0.28	0.07	0.04
Iron		128	95	28.2	5.9	3.0
Potassium		3	<2	2	<2	<2
Magnesium		1	50	0.38	<1	<1
Manganese		0.91	3	0.06	0.02	0.01
Sodium		9	24	8	9	10
Nickel		<0.02	0.10	<0.02	<0.02	<0.02
Zinc		0.34	0.38	0.09	0.06	<0.02
Mercury		0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic		<0.005	<0.024	<0.005	<0.005	<0.005
Lead		0.076	0.013	0.020	<0.005	0.009
Selenium		<0.05	<0.05	<0.005	<0.005	<0.005
TOC		1	<1	1	2	1
Alkalinity		14	128	11	12	7.4
Chloride		5	45	5	5	5
Fluoride		0.20	0.60		0.1	<0.1
pH (Lab)		5.64	7.08	5.40	5.46	5.75
pH (Field)				5.40	5.56	5.17
Sulfate		7	<12	4	5	4
Spec. Cond.		40	310	50	53	61
Temperature		21	8	16.1	18.9	18
Ammonia N		0.1	0.35	<0.1	<0.1	0.2
Nitrite N		<0.05	<0.05	<0.05		
Nitrate N		0.30	0.29	0.25	0.28	0.27
Cyanide (total)		<0.005	<0.005	<0.005	<0.005	<0.005
TDS		116	38	56	42	58

LOCATION 18992.210, 6023.290

COLLAR ELEVATION - 446.500

DEPTH OF WELL - 121ft

DATE	8/14/91	8/22/91	2/28/92	5/14/92	8/26/92
DEPTH TO WATER	22.25	22.59	23	23	26.8
WATER ELEVATION	424.25	423.91	423.5	423.5	419.7
Silver	<0.010	<0.010	<0.010	<0.010	<0.01
Aluminum	2.0	7	0.2	0.7	0.6
Barium	0.20	0.25	0.15	0.18	0.20
Calcium	34.3	40	31.7	31	38
Cadmium	<0.005	0.007	<0.005	<0.005	<0.005
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.02	0.05	<0.02	0.01	0.01
Iron	11.9	40	0.61	7.7	6.2
Potassium	3	2	<2	<2	<2
Magnesium	6.29	8	5.16	5	6
Manganese	0.62	2	0.34	0.59	0.60
Sodium	14	15	11	12	13
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	0.31	<0.03	0.04	0.12	0.11
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.005	0.009	<0.005	<0.005	<0.005
Lead	0.195	0.39	0.009	0.038	0.088
Selenium X	<0.005	<0.005	<0.005	<0.005	<0.005
TOC	<1	8	1	2	1
Alkalinity	31	114	124	119	133
Chloride	7	7	8	9	18
Fluoride	0.2	0.2	0.2	0.1	0.1
pH (Lab)	7.1	7.32	7.68	7.78	7.69
pH (Field)			7.64	7.54	7.75
Sulfate	9	10	9	8	9
Spec. Cond.	240	235	267	254	172
Temperature			15	17.8	18
Ammonia N	0.27	0.14	<0.1	<0.1	0.2
Nitrite N	<0.05	<0.05			
Nitrate NX	<0.05	<0.05	<0.05	<0.05	<0.05
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005
TDS	158	14	200	189	220

GW-5

LOCATION 18774.200, 6890.800

COLLAR ELEVATION - 432.600

DEPTH OF WELL - 37.8ft

DATE	3/27/91	6/28/91	9/19/91	12/19/91	2/27/92	duplicat 2/27/92	5/14/92	8/25/92
DEPTH TO WATER	12.89	12.6	13.69	15.22	13.37		13.99	13.92
WATER ELEVATION	419.71	420	418.91	417.38	419.23		418.61	418.68
Silver	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01
Aluminum	6.8	4.3	3.1	125	58.1	120	26.3	43.4
Barium	<0.02	0.03	0.03	0.46	0.29	0.44	0.12	0.16
Calcium	13.0	27.8	28.1	64.7	45.7	74.7	34	40
Cadmium	<0.002	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005
Chromium	<0.01	<0.01	<0.01	0.32	0.17	0.3	0.07	0.10
Copper	0.02	0.04	<0.02	0.22	0.11	0.2	0.05	0.07
Iron	8.64	5.23	3.76	185	92.6	162	39.8	56.6
Potassium	<2	<2	<2	6	3	6	2	2
Magnesium	15.9	19.3	20.1	97.2	58.6	86.1	34	38
Manganese	0.61	0.55	0.65	4.86	3.01	4.11	1.30	1.56
Sodium	8	28	30	25	20	28	26	28
Nickel	<0.02	0.03	<0.02	0.11	0.06	0.10	0.02	0.03
Zinc	0.12	0.15	<0.02	0.66	0.43	0.57	0.14	0.19
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	<0.005	<0.02	<0.005	<0.025	<0.005	<0.025	<0.005	<0.005
Lead	0.005	0.014	<0.005	<0.026	0.025	0.028	<0.005	0.015
Selenium	<0.005	<0.005	<0.005	<0.10	<0.025	<0.025	<0.005	<0.005
TOC	2	2	1	2	2	2	1	1
Alkalinity	65.1	173.3	173	165	168	170	153	154
Chloride	4	41	41	60	38	44	38	36
Fluoride					0.2	2.5	1	0.2
pH (Lab)	6.7	6.73	6.85	6.47	6.94	6.87	6.72	6.85
pH (Field)					6.89	6.88	6.82	6.10
Sulfate	22	<12	3	<30	6	<3	<30	<3
Spec. Cond.	180	395	355	407	374	376	376	399
Temperature	23	22.5		19	15.5	15.5	17.8	18
Ammonia N	0.38	0.34		0.15	0.13	<0.1	<0.1	0.2
Nitrite N			<0.05	<0.05				
Nitrate N	<0.05	<0.05	0.09	0.11	<0.05	<0.05	0.11	0.08
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TDS	185	251	154	237	264	264	257	265

D3

LOCATION 19506.650, 7324.42

COLLAR ELEVATION - 470.391

DEPTH OF WELL - 79ft

DATE	8/28/91	9/12/91	2/27/92	5/14/92	8/25/92
DEPTH TO WATER	37.54	37.6	41.06	40.24	41.11
WATER ELEVATION	432.851	432.791	429.391	430.151	429.281
Silver	0.014	0.061	<0.01	<0.01	<0.01
Aluminum	158	62	4.1	1.0	1.6
Barium	0.21	0.42	<0.02	<0.02	<0.02
Calcium	85.0		36.2	33	35
Cadmium	0.007	<0.005	<0.005	<0.005	<0.005
Chromium	0.04	<0.01	<0.01	<0.01	<0.01
Copper	0.19	0.81	<0.02	<0.01	<0.02
Iron	208	81	5.94	1.2	2.4
Potassium	6	3	<2	<2	<2
Magnesium	87	0.85	15.2	13	14
Manganese	7	0.18	0.59	0.24	0.41
Sodium	18	10	19	20	21
Nickel	0.19	<0.02	0.04	<0.02	0.09
Zinc	0.81	0.23	0.04	<0.02	<0.02
Mercury	0.0002	0.0002	<0.0002	<0.0002	<0.0002
Arsenic	<0.020	<0.020	<0.005	<0.005	<0.005
Lead	0.025	0.094	0.005	<0.005	<0.005
Selenium	<0.10	<0.020	<0.005	<0.005	<0.005
TOC	1	2	1	1	<1
Alkalinity	127	11	129	123	124
Chloride	44	5	51	49	47
Fluoride	0.75	0.2	1.2	<0.1	0.1
pH (Lab)	6.85	5.91	6.64	6.67	6.68
pH (Field)			6.68	6.54	5.89
Sulfate	<3	<15	<3	3	<3
Spec. Cond.	350	45	348.5	354	394
Temperature	21	7	16	18.3	18
Ammonia N	1.4	0.35	0.27	<0.1	0.2
Nitrite N	<0.05	<0.05			
Nitrate N	0.15	0.08	0.06	0.14	0.12
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005
TDS	116	260	259	260	274

GW-6

LOCATION 18937.500, 6179.100

COLLAR ELEVATION - 425.900

DEPTH OF WELL - 28.4ft

DATE	3/27/91	6/28/91	9/19/91	12/19/91	2/28/92	5/14/92	8/25/92
DEPTH TO WATER	2.6	2.4	4.79	6.42	5.33	6.29	4.97
WATER ELEVATION	423.9	423.5	421.11	419.48	420.57	419.61	420.93
Silver	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01
Aluminum	1.2	1.8	1.5	0.6	2.6	1.8	0.5
Barium	0.03	0.03	0.05	0.04	0.03	0.05	0.04
Calcium	18.1	21.7	21.6	22.5	18.7	22	22
Cadmium	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.02	0.02	0.03	<0.01	0.02	<0.01	<0.02
Iron	1.02	1.59	1.06	0.59	2.23	1.2	0.4
Potassium	<2	2	<2	<2	<2	<2	<2
Magnesium	10.2	11.5	11.8	11.9	10.1	12	12
Manganese	0.22	0.32	1.38	0.96	0.53	1.16	1.21
Sodium	26	29	31	30	22	27	30
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	<0.02	0.11	0.08	<0.02	0.02	<0.02	<0.02
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	<0.005	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	0.017	0.015	<0.005	<0.005	0.016	<0.005	<0.005
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOC	5	8	2	1	1	1	2
Alkalinity	87.15	86.1	122	118	89	90	107
Chloride		49	44	41	43	42	39
Fluoride					0.5	0.2	0.2
pH (Lab)	7.0	6.55	6.70	6.27	6.51	6.54	6.68
pH (Field)					6.61	6.59	6.92
Sulfate	12	14	16	13	12	11	12
Spec. Cond.	290	320	320	316	312.5	349.8	194
Temperature	29	22.5		20	14.7	15.6	18
Ammonia N	0.19	0.24		<0.1	<0.1	0.1	0.3
Nitrite N			<0.05	<0.05			
Nitrate N	0.06	<0.05	<0.05	0.19	0.10	<0.05	<0.05
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TDS	272	220	162	216	234	235	245

E1

LOCATION 18947.750, 6168.310

COLLAR ELEVATION - 428.080

DEPTH OF WELL - 60ft

DATE	8/14/91	8/22/91	(Using GW6 as well from this set)
DEPTH TO WATER	4.84	6.02	
WATER ELEVATION	423.24	422.06	
Silver	<0.010	<0.010	
Aluminum	1.2	2	
Barium	0.05	0.05	
Calcium	25.3	35	
Cadmium	<0.005	<0.005	
Chromium	<0.01	<0.01	
Copper	<0.02	<0.02	
Iron	1.38	3	
Potassium	9	<2	
Magnesium	7.85	10	
Manganese	0.35	0.50	
Sodium	23	23	
Nickel	<0.02	<0.02	
Zinc	0.39	0.24	
Mercury	<0.0002	<0.0002	
Arsenic	<0.005	<0.005	
Lead	0.013	0.072	
Selenium	<0.005	<0.010	
TOC	8	3	
Alkalinity	100	98	
Chloride	39	39	
Fluoride	0.20	0.2	
pH	6.7	7	
Sulfate X	11	9	
Spec. Cond.	300	315	
Temperature			
Ammonia N	0.38	0.15	
Nitrite N	<0.05	<0.05	
Nitrate N	<0.05	<0.05	
Cyanide (total)	<0.005	<0.005	
TDS	240	30	

F3 UPGRADIENT

LOCATION 19505.880, 5619.790

COLLAR ELEVATION - 482.263

DEPTH OF WELL - 75ft

DATE	8/14/91	8/22/91	2/27/92	5/14/92	8/25/92	duplicate 8/25/92
DEPTH TO WATER	38.61	38.82	45.18	53.96	53.19	
WATER ELEVATION	443.653	443.443	437.083	428.303	429.073	
Silver	<0.010	<0.010	<0.010	0.04	<0.01	<0.01
Aluminum	18.2	15	10.9	23.0	20.4	7.1
Barium	0.17	0.17	0.15	0.29	0.22	0.19
Calcium	8.4	13	5.9	11	11	11
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Copper	0.14	0.11	0.08	0.28	0.12	0.08
Iron	22.9	28	17.4	78.30	35.0	20.8
Potassium	3	<2	<2	<2	<2	<2
Magnesium	1.24	2	1.23	2	2	2
Manganese	0.05	0.07	0.04	0.08	0.06	0.05
Sodium	19	15	9	12	13	13
Nickel	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	0.21	0.12	0.08	0.12	0.08	0.06
Mercury	<0.0002	<0.0002	0.0002	0.0003	0.0003	0.0005
Arsenic	<0.005	0.012	<0.005	<0.005	<0.005	<0.003
Lead	0.026	0.038	0.018	0.12	0.079	0.039
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOC	2	<1	2	1	<1	<1
Alkalinity	47	53	21	24	47	26
Chloride	7	6	7	7	7	7
Fluoride	0.2	<0.1		0.3	0.2	0.2
pH (Lab)	6.3	6.19		6.01	6.36	6.16
pH (Field)			5.62	5.82	5.47	5.47
Sulfate X	12	16	10	<12	<12	8
Spec. Cond.	155	110	88	85	121	121
Temperature			15.5	20	18	18
Ammonia N	0.25	0.13	0.13	<0.1	0.3	0.1
Nitrite N	<0.05	<0.05	<0.05			
Nitrate N	0.12	0.17	0.15	0.17	0.15	0.17
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TDS	246	20	98	96	113	106

G1

LOCATION 19167.090, 6176.060

COLLAR ELEVATION - 442.995

DEPTH OF WELL - 38ft

DATE	8/14/91	9/22/91	2/27/92	5/14/92	duplicate 5/14/92	Well closed out Replaced by Well L2
DEPTH TO WATER	13.35	14.44	17.7	21.05		
WATER ELEVATION	429.645	428.555	425.295	421.945		
Silver	<0.010	<0.010	<0.010	<0.010	<0.010	
Aluminum	55.7	23	4.2	6.2	5.8	
Barium	0.11	0.05	0.09	0.04	0.04	
Calcium	24.3	26	16.5	17	18	
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	
Chromium	0.09	0.01	<0.01	<0.01	<0.01	
Copper	0.04	0.02	<0.02	<0.01	<0.01	
Iron	15.7	7	1.46	2	1.8	
Potassium	3	<2	<2	<2	<2	
Magnesium	8.45	6	4.50	5	5	
Manganese	0.16	0.08	0.07	0.09	0.04	
Sodium	18	16	14	16	16	
Nickel	<0.02	0.04	<0.02	<0.02	<0.02	
Zinc	0.30	0.20	0.05	0.04	0.04	
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	
Lead	0.080	0.047	<0.005	<0.005	<0.005	
Selenium	<0.005	<0.10	<0.005	<0.005	<0.005	
TOC	1	<1	2	2	2	
Alkalinity	84	79	67	64	65	
Chloride	19	20	18	24	24	
Fluoride	0.4	0.2		0.1	0.2	
pH (Lab)	8.4	7.25	6.67	6.42	6.37	
pH (Field)			6.56	6.63	6.63	
Sulfate X	10	12	<3	8	7	
Spec. Cond.	230	215	186	211		
Temperature				18.9		
Ammonia N	0.30	0.25	<0.1	<0.1	<0.1	
Nitrite N	0.05	<0.05	<0.05			
Nitrate N	0.17	0.26	0.20	0.17	0.16	
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005	
TDS	140	22	181	198	180	

N

LOCATION 10757.420, 6358.792

COLLAR ELEVATION - 433.935

DEPTH OF WELL - 27.07

DATE	1/14/92	1/22/92	2/27/92	5/14/92	8/25/92
DEPTH TO WATER	16.43	16.14	15.07	15.39	15.4
WATER ELEVATION	417.505	417.795	418.865	418.545	418.535
Silver	<0.010	<0.010	<0.010	<0.010	<0.01
Aluminum	35.1	48.1	38.8	24.0	25.1
Barium	0.09	0.11	0.11	0.07	0.05
Calcium	36.8	31.4	31.0	30	31
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.04	0.04	0.05	0.02	0.03
Copper	0.03	0.03	0.05	0.02	<0.02
Iron	45.8	61.4	41.2	27	29.4
Potassium	7	4	5	2	2
Magnesium	42.0	48.1	34.0	34	34
Manganese	2.01	2.74	2.60	1.58	1.27
Sodium	48	44	36.00	45.00	50.00
Nickel	0.02	0.02	0.02	<0.02	<0.02
Zinc	0.33	0.44	0.30	0.20	0.17
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	0.019	0.006	0.010	<0.005	0.006
Selenium	<0.005	<0.025	<0.025	<0.020	<0.005
TOC	2	2	2	1	1
Alkalinity	201	206	214	196	204
Chloride	50	65	51	55	58
Fluoride	0.4	0.8		0.3	0.4
pH (Lab)	7.28	7.35	7.23	7.07	7.07
pH (Field)			7.31	6.95	7.04
Sulfate X	<12	<75	8	<12	<12
Spec. Cond.	500	247	468	528	554
Temperature		13	15	15.6	18
Ammonia N	0.25	0.14	0.15	0.9	0.2
Nitrite N	<0.05	<0.10	<0.05		
Nitrate N	<0.10	<0.10	<0.2	<0.05	<0.05
Cyanide (total)	<0.005	<0.005	<0.005	<0.005	<0.005
TDS	283	274	1152	299	336

Well 0

LOCATION 18758.548, 6704.178

COLLAR ELEVATION - 442.445

DEPTH OF WELL - 28.62

	DATE	1/22/92	2/28/92	5/14/92	8/25/92
DEPTH TO WATER		26.42	23.16	23.25	23.32
WATER ELEVATION		416.025	419.285	419.195	419.125
Silver		<0.010	<0.010	<0.010	<0.01
Aluminum		0.9	1.2	1.4	2.8
Barium		0.03	0.02	0.03	0.03
Calcium		33.9	29.5	28	31
Cadmium		<0.005	<0.005	<0.005	<0.005
Chromium		<0.01	<0.01	<0.01	<0.01
Copper		<0.02	<0.02	<0.01	<0.02
Iron		1.18	1.48	2.1	3.6
Potassium		4	2	2	<2
Magnesium		15.1	15.4	16	18
Manganese		0.10	0.08	0.06	0.11
Sodium		26	24	26.00	26
Nickel		<0.02	<0.02	<0.02	<0.02
Zinc		0.02	<0.02	0.02	0.04
Mercury		<0.0002	<0.0002	<0.0002	<0.0002
Arsenic		<0.005	<0.005	<0.005	<0.005
Lead		0.019	0.010	<0.005	<0.005
Selenium		<0.005	<0.005	<0.005	<0.005
TOC		2	1	2	
Alkalinity			129	134	140
Chloride		60	60	58	57
Fluoride		0.2	0.5	0.2	0.2
pH (Lab)		7.27	7.14	6.92	6.94
pH (Field)			6.93	6.83	7.24
Sulfate X		11	3	<3	<3
Spec. Cond.		201	433	440	253
Temperature		19	15.5	16.7	18
Ammonia N			0.13	<0.1	0.2
Nitrite N		<0.05			
Nitrate N			0.35	0.37	0.41
Cyanide (total)			<0.005	<0.005	<0.005
TDS		222	258	267	294

Well L2

LOCATION 19275.583, 7092.098

COLLAR ELEVATION - 462.221

DEPTH OF WELL - 81.91

DATE 8/7/92 8/25/92

DEPTH TO WATER	38	37.51
WATER ELEVATION	424.221	424.711
Silver	<0.01	<0.01
Aluminum	209	88.6
Barium	0.30	0.17
Calcium	67	57
Cadmium	0.006	<0.005
Chromium	0.07	0.19
Copper	0.25	0.15
Iron	160	91.7
Potassium	4	<2
Magnesium	38	29
Manganese	12.70	7.35
Sodium	24	29
Nickel	0.06	0.05
Zinc	0.29	0.18
Mercury	<0.0002	<0.0002
Arsenic	<0.005	<0.005
Lead	0.028	0.028
Selenium	<0.005	<0.005
TOC	2	<1
Alkalinity	146	138
Chloride	73	77
Fluoride	0.9	0.5
pH (Lab)	6.96	6.81
pH (Field)	6.84	6.12
Sulfate	<60	<30
Spec. Cond.	493	504
Temperature	17	18
Ammonia N	0.40	0.3
Nitrite N		
Nitrate N	0.29	0.37
Cyanide (total)	<0.005	<0.005
TDS	657	485

Davis & Floyd, Inc.

Laboratory Analysis Report

Page 1

Received: 08/27/92

09/24/92 07:54:05

Work Order # 92-08-235

REPORT NEVADA GOLDFIELDS, INC.
TO P.O. BOX 1530
McCORMICK, SC 29835

PREPARED Davis & Floyd, Inc.
BY P.O. Drawer 428
Greenwood, S.C. 29648

ATTEN SCOTT WILKINSON

PHONE (803)-229-5211

WORK ID JOB NO. 7561.00

Comments:
WE ARE PLEASED TO PROVIDE THIS CERTIFIED REPORT OF ANALYSES.
FEEL FREE TO TELEPHONE IF FURTHER EXPLANATION IS REQUIRED.
UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE, SAMPLES WILL BE
DISPOSED OF OR RETURNED 28 DAYS FROM THE DATE OF THIS REPORT.

TO P.O. BOX 1530
McCormick, SC 29835

ATTEN SCOTT WILKINSON

WORK ID JOB NO. 7561.00

P.O. #

TAKEN NEVADA GOLDFIELDS, INC.
TYPE WASTE WATER
NUMBER OF SAMPLES 1

SAMPLE IDENTIFICATION
01 B-2

DATE COLLECTED
08/26/92 13:05:00

CERTIFIED BY

JOHN MCCORD

RECEIVED SEP 30 1992

Davis & Floyd, Inc.**Laboratory Analysis Report**

Page 2

Received: 08/27/92

Work Order # 92-08-235

09/24/92 07:54:05

Test Description	Units	01 B-2
SILVER (TOTAL)	mg/l	<0.01
ALUMINUM (TOTAL)	mg/l	0.6
BARIUM (TOTAL)	mg/l	0.20
CALCIUM (TOTAL)	mg/l	38
CADMIUM (TOTAL)	mg/l	<0.005
CHROMIUM (TOTAL)	mg/l	<0.01
COPPER (TOTAL)	mg/l	0.01
IRON (TOTAL)	mg/l	6.2
POTASSIUM (TOTAL)	mg/l	<2
MAGNESIUM (TOTAL)	mg/l	6
MANGANESE (TOTAL)	mg/l	0.60
SODIUM (TOTAL)	mg/l	13
NICKEL (TOTAL)	mg/l	<0.02
ZINC (TOTAL)	mg/l	0.11
MERCURY (TOTAL)	mg/l	<0.0002
ARSENIC (TOTAL)	mg/l	<0.005
LEAD (TOTAL)	mg/l	0.088
SELENIUM (TOTAL)	mg/l	<0.005
TOTAL ORGANIC CARBON	mg/l	1
BICARBONATE ALKALINITY	mg/l	133
CHLORIDE	mg/l	18
FLUORIDE	mg/l	0.1
pH (LAB)	pH units	7.69
SULFATE	mg/l	9
SPECIFIC CONDUCTANCE	micromhos/cm	308.0

Davis & Floyd, Inc.**Laboratory Analysis Report**

Page 3

Received: 08/27/92

09/24/92 07:54:05

Work Order # 92-08-235

Continued From Above

Test Description	Units	01 B-2
AMMONIA NITROGEN	mg/l	0.2
NITRATE NITROGEN	mg/l	<0.05
CYANIDE (TOTAL)	mg/l	<0.005
TOTAL DISSOLVED SOLIDS	mg/l	220

Davis & Floyd, Inc.

Laboratory Analysis Report

Page 1

Received: 08/07/92

09/09/92 08:26:46

Work Order # 92-08-066

REPORT NEVADA GOLDFIELDS, INC.
TO P.O. BOX 1530
McCORMICK, SC 29835

PREPARED Davis & Floyd, Inc.
BY P.O. Drawer 428
Greenwood, S.C. 29648

ATTEN SCOTT WILKINSON

PHONE (803)-229-5211

WORK ID JOB NO. 7561.02

Comments:

P.O. #
TAKEN NEVADA GOLDFIELDS, INC.
TYPE WASTE WATER
NUMBER OF SAMPLES 1

WE ARE PLEASED TO PROVIDE THIS CERTIFIED REPORT OF ANALYSES.
FEEL FREE TO TELEPHONE IF FURTHER EXPLANATION IS REQUIRED.
UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE, SAMPLES WILL BE
DISPOSED OF OR RETURNED 28 DAYS FROM THE DATE OF THIS REPORT.

[Signature]
CERTIFIED BY

JOHN_MCCORD

SAMPLE IDENTIFICATION
01 L-2

DATE COLLECTED
08/07/92

RECEIVED SEP 16 1992

Page 2

Received: 08/07/92

Work Order # 92-08-066

09/09/92 08:26:46

Test Description	Units	01 L-Z
SILVER (TOTAL)	mg/l	<0.01
ALUMINUM (TOTAL)	mg/l	209
BARIUM (TOTAL)	mg/l	0.30
CALCIUM (TOTAL)	mg/l	67
CADMIUM (TOTAL)	mg/l	0.006
CHROMIUM (TOTAL)	mg/l	0.07
COPPER (TOTAL)	mg/l	0.25
IRON (TOTAL)	mg/l	160
POTASSIUM (TOTAL)	mg/l	4
MAGNESIUM (TOTAL)	mg/l	38
MANGANESE (TOTAL)	mg/l	12.7
SODIUM (TOTAL)	mg/l	24
NICKEL (TOTAL)	mg/l	0.06
ZINC (TOTAL)	mg/l	0.23
MERCURY (TOTAL)	mg/l	<0.0002
ARSENIC (TOTAL)	mg/l	<0.005
LEAD (TOTAL)	mg/l	0.028
SELENIUM (TOTAL)	mg/l	<0.005
TOTAL ORGANIC CARBON	mg/l	2
BICARBONATE ALKALINITY	mg/l	146
CHLORIDE	mg/l	73
FLUORIDE	mg/l	0.9
pH (LAB)	pH units	6.96
SULFATE	mg/l	<60 X
AMMONIA NITROGEN	mg/l	0.4

Davis & Floyd, Inc.**Laboratory Analysis Report**

Page 3

Received: 08/07/92

09/09/92 08:26:46

Work Order # 92-08-066

Continued From Above

Test Description	Units	01 L-Z
NITRATE NITROGEN	mg/l	0.29
CYANIDE (TOTAL)	mg/l	<0.005
TOTAL DISSOLVED SOLIDS	mg/l	657

Davis & Floyd, Inc.

Laboratory Analysis Report

Page 4

Received: 08/07/92

09/09/92 08:26:46

Work Order # 92-08-066

NEVADA GOLDFIELDS, INC.

NOTES:

X = INDICATES MATRIX INTERFERENCE WHICH MAY REQUIRE A DILUTION OR WHICH
PREVENTS THE REPORTING OF A RESULT. DETECTION LIMITS HAVE BEEN
ADJUSTED WHERE APPLICABLE.

DAVIS
FLOYD

Chain of Custody Form

Page ____ of ____

816 East Durst Street, Greenwood, S.C. 29649 Phone (803)229-5211 Fax (803)229-7119

PROJ. NO.	PROJECT NAME						NO. OF BOTTLES	CONTAINERS (PARAMETERS ON BACK)															SAMPLE TYPE	POTENTIAL HAZARD		
1561.02	Nevada Goldfields							1 1/250ml	2 500ml	3 500ml	4 1000ml	5 125ml	6 1000ml	7 1/2 Gall	8	9	10	11	12	13	14	15				
SAMPLERS NAME/AFFILIATION:(PRINTED)																										
SAMPLE NO.	DATE	GRAB	TIME	COMP	TIME ON	TIME OFF	SAMPLE DESCRIPTION																			
1	8-7-92	X					L-Z	7	1	1	1	1	1	1									SW	Ø		

RELINQUISHED BY: (SIGNATURE) <i>Robert P. Rogers</i>	DATE / TIME 8-7-92 11:00	RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED FOR LAB BY: (SIGNATURE) <i>Angie Hanna</i>	DATE / TIME 8/7/92 11:00	CLIENT CONTACT:	
				RESULTS SENT TO:	
DW-DRINKING WATER GW-GROUND WATER	WW-WASTE WATER RC-RCRA	HW-HAZARDOUS WATER SW-SURFACE WATER	SD-SOLID IM-IMPINGER SOLUTION	AB-ABSORBENT TUBE F -FILTERS	

LISTING OF PARAMETERS

<u>PARAMETER</u>	<u>METHOD No.</u>	<u>PRESERVATIVE</u>	<u>DISSOLVED</u>	<u>TOTAL</u>
1. TOC		H ₂ SO ₄		
2. Ammonia / Nitrate		H ₂ SO ₄		
3. / TDS		NONE		
4. Bicarbonate, Chloride, Fluoride, Sulfate		NONE		
5. pH		NONE		
6. Ca, Fe, Mg, Mn, K, Na, Al, As, Ba, Cd, Cr, Cu, Pb, Ni, Hg, Se, Ag, Zn		HNO ₃		
7. Cyanide (Tot)		HNO ₃ NAOH		
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

REMARKS:

Davis & Floyd, Inc.

Laboratory Analysis Report

Page 1

Received: 08/26/92

09/21/92 09:26:46

Work Order # 92-08-224

REPORT NEVADA GOLDFIELDS, INC.
TO P.O. BOX 1530
McCORMICK, SC 29835

PREPARED Davis & Floyd, Inc.
BY P.O. Drawer 428
Greenwood, S.C. 29648

ATTEN SCOTT WILKINSON

PHONE (803)-229_5211

WORK ID JOB NO. 7561.02

P.O. #

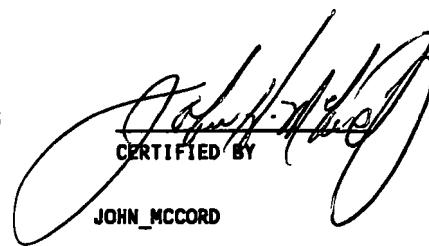
TAKEN NEVADA GOLDFIELDS, INC.

TYPE WASTE WATER

NUMBER OF SAMPLES 9

Comments:

WE ARE PLEASED TO PROVIDE THIS CERTIFIED REPORT OF ANALYSES.
FEEL FREE TO TELEPHONE IF FURTHER EXPLANATION IS REQUIRED.
UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE, SAMPLES WILL BE
DISPOSED OF OR RETURNED 28 DAYS FROM THE DATE OF THIS REPORT.


CERTIFIED BY
JOHN_MCCORD

SAMPLE IDENTIFICATION	DATE COLLECTED
01 GW-6	08/26/92 08:20:00
02 O	08/26/92 08:40:00
03 D-3	08/25/92 13:05:00
04 N	08/25/92 09:10:00
05 T	08/25/92 14:55:00
06 F-3	08/25/92 14:30:00
07 L-2	08/25/92 11:00:00
08 GW-5	08/25/92 15:25:00
09 A-3	08/25/92 14:00:00

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Davis & Floyd, Inc.

Laboratory Analysis Report

Page 2

Received: 08/26/92

Work Order # 92-08-224

09/21/92 09:26:46

Test Description	Units	01	02	03	04
		GW-6	0	D-3	N
SILVER (TOTAL)	mg/l	<0.01	<0.01	<0.01	<0.01
ALUMINUM (TOTAL)	mg/l	0.5	2.8	1.6	25.1
BARIUM (TOTAL)	mg/l	0.04	0.03	<0.02	0.05
CALCIUM (TOTAL)	mg/l	22	31	35	31
CADMIUM (TOTAL)	mg/l	<0.005	<0.005	<0.005	<0.005
CHROMIUM (TOTAL)	mg/l	<0.01	<0.01	<0.01	0.03
COPPER (TOTAL)	mg/l	<0.02	<0.02	<0.02	<0.02
IRON (TOTAL)	mg/l	0.4	3.6	2.4	29.4
POTASSIUM (TOTAL)	mg/l	<2	<2	<2	2
MAGNESIUM (TOTAL)	mg/l	12	18	14	34
MANGANESE (TOTAL)	mg/l	1.21	0.11	0.41	1.27
SODIUM (TOTAL)	mg/l	30	26	21	50
NICKEL (TOTAL)	mg/l	<0.02	<0.02	0.03	<0.02
ZINC (TOTAL)	mg/l	<0.02	0.04	<0.02	0.17
MERCURY (TOTAL)	mg/l	<0.0002	<0.0002	<0.0002	<0.0002
ARSENIC (TOTAL)	mg/l	<0.005	<0.005	<0.005	<0.005
LEAD (TOTAL)	mg/l	<0.005	<0.005	<0.005	0.006
SELENIUM (TOTAL)	mg/l	<0.005	<0.005	<0.005	<0.005
TOTAL ORGANIC CARBON	mg/l	2	2	<1	1
BICARBONATE ALKALINITY	mg/l	107	140	124	204
CHLORIDE	mg/l	39	57	47	58
FLUORIDE	mg/l	0.2	0.2	0.1	0.4
pH (LAB)	pH units	6.68	6.94	6.68	7.07
SULFATE	mg/l	12	<3	<3	<12 X
AMMONIA NITROGEN	mg/l	0.3	0.2	0.2	0.2

Davis & Floyd, Inc.

Laboratory Analysis Report

Page 3

Received: 08/26/92

09/21/92 09:26:46

Work Order # 92-08-224

Continued From Above

Test Description	Units	01	02	03	04
		GW-6	0	D-3	N
NITRATE NITROGEN	mg/l	<0.05	0.41	0.12	<0.05
CYANIDE (TOTAL)	mg/l	<0.005	<0.005	<0.005	<0.005
TOTAL DISSOLVED SOLIDS	mg/l	245	294	274	336

Test Description	Units	05	06	07	08
		T	F-3	L-2	GW-5
SILVER (TOTAL)	mg/l	<0.01	<0.01	<0.01	<0.01
ALUMINUM (TOTAL)	mg/l	7.1	20.4	88.6	43.4
BARIUM (TOTAL)	mg/l	0.13	0.22	0.17	0.16
CALCIUM (TOTAL)	mg/l	11	11	57	40
CADMIUM (TOTAL)	mg/l	<0.005	<0.005	<0.005	<0.005
CHROMIUM (TOTAL)	mg/l	<0.01	<0.01	0.19	0.10
COPPER (TOTAL)	mg/l	0.08	0.12	0.15	0.07
IRON (TOTAL)	mg/l	20.8	35.0	91.7	56.6
POTASSIUM (TOTAL)	mg/l	<2	<2	<2	2
MAGNESIUM (TOTAL)	mg/l	2	2	29	38
MANGANESE (TOTAL)	mg/l	0.05	0.06	7.35	1.56
SODIUM (TOTAL)	mg/l	13	13	29	28
NICKEL (TOTAL)	mg/l	<0.02	<0.02	0.05	0.03
ZINC (TOTAL)	mg/l	0.06	0.08	0.18	0.19
MERCURY (TOTAL)	mg/l	0.0005	0.0003	<0.0002	<0.0002
ARSENIC (TOTAL)	mg/l	<0.003	<0.005	<0.005	<0.005
LEAD (TOTAL)	mg/l	0.033	0.079	0.028	0.015
SELENIUM (TOTAL)	mg/l	<0.005	<0.005	<0.005	<0.005

Davis & Floyd, Inc.**Laboratory Analysis Report**

Page 4

Received: 08/26/92

09/21/92 09:26:46

Work Order # 92-08-224

Continued From Above

Test Description	Units	T	05	06	07	08
		F-3	L-2	GW-5		
TOTAL ORGANIC CARBON	mg/l		<1	<1	<1	1
BICARBONATE ALKALINITY	mg/l		26	47	138	154
CHLORIDE	mg/l		7	7	77	36
FLUORIDE	mg/l		0.2	0.2	0.5	0.2
pH (LAB)	pH units		6.16	6.36	6.81	6.85
SULFATE	mg/l		8	<12 X	<30 X	<3
AMMONIA NITROGEN	mg/l		0.1	0.3	0.3	0.2
NITRATE NITROGEN	mg/l		0.17	0.15	0.37	0.08
CYANIDE (TOTAL)	mg/l		<0.005	<0.005	<0.005	<0.005
TOTAL DISSOLVED SOLIDS	mg/l		106	113	485	265

Test Description	Units	09
		A-3
SILVER (TOTAL)	mg/l	<0.01
ALUMINUM (TOTAL)	mg/l	2.6
BARIUM (TOTAL)	mg/l	0.10
CALCIUM (TOTAL)	mg/l	<1
CADMIUM (TOTAL)	mg/l	<0.005
CHROMIUM (TOTAL)	mg/l	<0.01
COPPER (TOTAL)	mg/l	0.04
IRON (TOTAL)	mg/l	3.0
POTASSIUM (TOTAL)	mg/l	<2
MAGNESIUM (TOTAL)	mg/l	<1
MANGANESE (TOTAL)	mg/l	0.01

Davis & Floyd, Inc.**Laboratory Analysis Report**

Page 5

Received: 08/26/92

09/21/92 09:26:46

Work Order # 92-08-224

Continued From Above

Test Description	Units	09 A-3
SODIUM (TOTAL)	mg/l	10
NICKEL (TOTAL)	mg/l	<0.02
ZINC (TOTAL)	mg/l	<0.02
MERCURY (TOTAL)	mg/l	<0.0002
ARSENIC (TOTAL)	mg/l	<0.005
LEAD (TOTAL)	mg/l	0.009
SELENIUM (TOTAL)	mg/l	<0.005
TOTAL ORGANIC CARBON	mg/l	1
BICARBONATE ALKALINITY	mg/l	7.4
CHLORIDE	mg/l	5
FLUORIDE	mg/l	<0.1
pH (LAB)	pH units	5.75
SULFATE	mg/l	4
AMMONIA NITROGEN	mg/l	0.2
NITRATE NITROGEN	mg/l	0.27
CYANIDE (TOTAL)	mg/l	<0.005
TOTAL DISSOLVED SOLIDS	mg/l	58

Page 6

Received: 08/26/92

09/21/92 09:26:46

Work Order # 92-08-224

NEVADA GOLDFIELDS, INC.

NOTE:

**X = INDICATES MATRIX INTERFERENCE WHICH MAY REQUIRE A
DILUTION OR WHICH PREVENTS THE REPORTING OF A
RESULT. DETECTION LIMITS HAVE BEEN ADJUSTED WHERE
APPLICABLE.**

**DAVIS
FLOYD**

9208224

Page 1 of 1

Chain of Custody Form

816 East Durst Street, Greenwood, S.C. 29649 Phone (803)229-5211 Fax (803)229-7119

PROJ. NO.		PROJECT NAME						CONTAINERS (PARAMETERS ON BACK)															SAMPLE TYPE	POTENTIAL HAZARD	
7561.62		<i>NEVADA Gold Fields</i>																							
SAMPLERS NAME/AFFILIATION:(PRINTED)		<i>Evelyn A. Floyd, S.S.</i>						<i>Nevada Gold Fields</i>																	
SAMPLE NO.	DATE	GRAB	TIME	COMP.	TIME ON	TIME OFF	SAMPLE DESCRIPTION	NO. OF BOTTLES	1 125 ml P	2 250 ml P	3 500 ml P	4 2500 ml P	5 LITER P	6 LITER P	7 8 LITER P	8 LITER P	9	10	11	12	13	14	15		
1	8-26-92	X	820				GW-6	1	1	1	1	1	1	1	1	1									
2	8-26-92	X	840				O	1	1	1	1	1	1	1	1	1									
3	8-25-92	X	1305				D-3	1	1	1	1	1	1	1	1	1									
4	8-25-92	X	910				N	1	1	1	1	1	1	1	1	1									
5	8-25-92	X	1455				T	1	1	1	1	1	1	1	1	1									
6	8-25-92	X	1430				F-3	1	1	1	1	1	1	1	1	1									
7	8-25-92	X	1100				L-2	1	1	1	1	1	1	1	1	1									
8	8-25-92	X	1525				GW-5	1	1	1	1	1	1	1	1	1									
9	8-26-92	X	1400				A-3	1	1	1	1	1	1	1	1	1									
RELINQUISHED BY: (SIGNATURE)	DATE / TIME		RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)		DATE / TIME	RECEIVED BY: (SIGNATURE)																		
<i>Evelyn A. Floyd</i>	8-26-92 / 10:15																								
RELINQUISHED BY: (SIGNATURE)	DATE / TIME		RECEIVED FOR LAB BY: (SIGNATURE)	DATE / TIME		CLIENT CONTACT:	<i>Jean Whisnant</i>																		
			<i>Annie Hanna</i>	8/26/92 / 10:15		RESULTS SENT TO:	<i>Jean Whisnant, NGI</i>		DATE:	<i>8/26/92</i>															

DW-DRINKING WATER
GW-GROUND WATER

WW-WASTE WATER
RC-RCRA

HW-HAZARDOUS WATER
SW-SURFACE WATER

SD-SOLID
IM-IMPINGER SOLUTION

AB-ABSORBENT TUBE
F - FILTERS

LISTING OF PARAMETERS

<u>PARAMETER</u>	<u>METHOD No.</u>	<u>PRESERVATIVE</u>	<u>DISSOLVED</u>	<u>TOTAL</u>
1. pH		NONE		
2. TOC		H ₂ SO ₄		
3. NH ₃ -N; NO ₃		H ₂ SO ₄		X
4. TDS		NONE		X
5. BICARBONATE ALK, Cl, F, SO ₄		NONE		X
6. Ca, Fe, Mg, Mn, K, Na, Al, As, Ba, Cd, Cu, Cr, Pb, Ni, Hg		HNO ₃		X
7. Si, Ag, Zn				
8. CYANIDE - TOR.		NaOH		X
9.				
10.				
11.				
12.				
13.				
14.				
15.				

REMARKS:

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